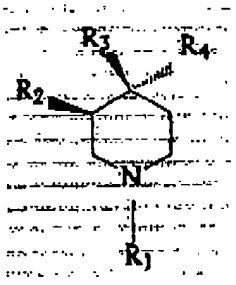
WANG ET AL. -- 10/089,169
Client/Matter: 082137-0280714

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-24. (Cancelled)

25. (New) A compound of formula (I):



(I)

wherein R_1 is a hydrogen; linear (C_1-C_7) alkyl; branched or cyclic (C_3-C_7) alkyl; halogenated linear, branched or cyclic alkyl; aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_1-C_5 alkyl; or an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, and hydroxyl; R_2 and R_4 are, independently, linear (C_1-C_7) alkyl; branched or cyclic (C_3-C_7) alkyl; halogenated linear, branched or cyclic alkyl; aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_1-C_5 alkyl; an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl and an amino group directly linked to the aromatic ring or connected to the aromatic ring by a C_1-C_5 alkyl; C(O)-R', wherein R' is linear (C_1-C_7) alkyl, branched or cyclic (C_3-C_7) alkyl, halogenated linear, branched or cyclic alkyl, aryl or alkylaryl, optionally substituted with one or more

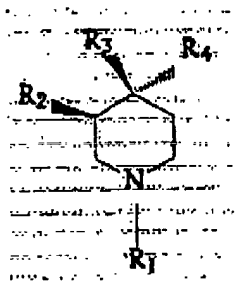
substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_1-C_5 alkyl, or an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aromatic ring or connected to the aromatic ring by a C_1-C_5 alkyl; primary, secondary or tertiary (C_1-C_7)alcohol, C(O)-OR" wherein R" is a linear (C_1-C_7) alkyl, branched or cyclic (C_3-C_7) alkyl, halogenated linear, branched or cyclic alkyl, aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_1-C_5 alkyl, or an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aromatic ring or connected to the aromatic ring by a C_1-C_5 alkyl; C(O)OR"' wherein R"' is a hydrogen, linear (C_1-C_7) alkyl, branched or cyclic (C_3-C_7) alkyl, halogenated linear, branched or cyclic alkyl, aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_3-C_5 alkyl, or an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aromatic ring or connected to the aromatic ring by a C_1-C_5 alkyl; C(O)NH-R"" or NHC(O)-R"" wherein R"" is a hydrogen, linear (C_1-C_7) alkyl, branched or cyclic (C_3-C_7) alkyl, halogenated linear, branched or cyclic alkyl, aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_3-C_5 alkyl, or an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aromatic ring or connected to the aromatic ring by a C_1-C_5 alkyl; and R_3 is F, Cl, Br, I, OH, OR"" or OC=OR"", wherein

R'''' is an alkyl, aryl, aromatic ring containing one or more hetero atoms, or R_3 is a covalent bond replacing the hydrogen in a hydroxyl group of R_2 when R_2 is alcohol or hydroxyl.

26. (New) A compound selected from the group consisting of 3,4-dichlorophenyl 4-(3,4-dichlorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 2,4-dichlorophenyl 4- (2,4-dichlorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 3-[hydroxy(4-methylphenyl)methyl]-1-methyl-4-(4-methylphenyl)piperidin-4-ol; 4-(3,4 dichlorophenyl)-3-[(3,4-dichlorophenyl) hydroxymethyl)]-1-methylpiperidin-4-o1; 4 (2,4-dichlorophenyl)-3-[(2,4- dichlorophenyl) hydroxymethyl]-1-methylpiperidin-4 ol; 8-aza-1,5 bis(4-methylphenyl)- 8-methyl-2,4-dioxabicyclo[4,4,ol]decan-3-one; 4-chloro-3-methylacetophenone; 4-chloro-3-methyl phenacylchloride; 4-chlorophenyl 4-(4-chlorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 4-bromophenyl 4-(4-bromophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 4-hydroxy-4-(4-iodophenyl)-1-methyl-3-piperidyl 4-iodophenyl ketone; 4-ethylphenyl 4-(4-ethylphenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 2-chlorophenyl 4-(2-chlorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 3-chlorophenyl 4-(3-chlorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 3,4-difluorophenyl 4-(3,4-difluorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 3,4-dimethyl 4-(3,4-dimethylphenyl)-4-hydroxy-1-methyl-3piperidyl ketone; 4-chloro-3-methylphenyl 4-(4-chloro-3-methylphenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 1-ethyl-4-hydroxy-4-(4-methylphenyl)-3-piperidyl 4-methylphenyl ketone; 4-chlorophenyl 4-(4-chlorophenyl)-1-ethyl-4-hydroxy-3-piperidyl ketone; 3,4-dichlorophenyl 4-(3,4-dichlorophenyl)-1-ethyl-4-hydroxy-3-piperidyl ketone; 3,4-dichlorophenyl 4-(3,4-dichlorophenyl)-4-hydroxy-1-(2-phenylethyl)-3-piperidyl ketone; 4-bromophenyl 4-(4-bromophenyl)-4-hydroxy-1-(2-phenylethyl)-3-piperidyl ketone; 3,4-dichlorophenyl 4-(3,4-diichlorophenyl)-4-hydroxy-1-(3-phenylpropyl)-3-piperidyl ketone; and 4-bromophenyl 4-(4-bromophenyl)-4-hydroxy-1-(3-phenylpropyl)-3-piperidyl ketone.

27. (New) A method of treatment for a subject having a condition selected from the group consisting of cocaine abuse, depression, anxiety, an eating disorder, alcoholism, chronic pain, obsessive compulsive disorder and Parkinson's Disease, wherein the method comprises administering to the subject a therapeutic dose of one or more of the compounds of claim 1.

28. (New) A method of inhibiting cocaine action in a subject in need of such inhibition comprising administering to a subject an effective amount of a compound of formula (1):



(I)

wherein R_1 is a hydrogen; linear (C_1 -C_7) alkyl; branched or cyclic (C_3-C_7) alkyl; halogenated linear, branched or cyclic alkyl; aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_1-C_5 alkyl; or an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, and hydroxyl; R_2 and R_4 are, independently, linear (C_1-C_7) alkyl; branched or cyclic (C_1-C_7) alkyl; halogenated linear, branched or cyclic alkyl; aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_1-C_5 alkyl; an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl; nitro, alkoxyl, hydroxyl and an amino group directly linked to the aromatic ring or connected to the aromatic ring by a C_1-C_5 alkyl; C(O)-R', wherein R' is linear (C_1-C_7) alkyl, branched or cyclic (C_3-C_7) alkyl, halogenated linear, branched or cyclic alkyl, aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_1-C_5 alkyl, or an aromatic ring containing one or more hetero atoms

selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aromatic ring or connected to the aromatic ring by a C_1-C_5 alkyl; primary, secondary or tertiary (C_1-C_7) alcohol, C(O)OR" wherein R" is a linear (C_1-C_7) alkyl, branched or cyclic (C_3-C_7) alkyl, halogenated linear, branched or cyclic alkyl, aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_1-C_5 alkyl, or an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aromatic ring or connected to the aromatic ring by a C_1-C_5 alkyl; C(O)OR'" wherein R'" is a hydrogen, linear (C_1-C_7) alkyl, branched or cyclic (C_3-C_7) alkyl, halogenated linear, branched or cyclic alkyl, aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_3-C_5 alkyl, or an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aromatic ring or connected to the aromatic ring by a C_1-C_5 alkyl; C(O)NH-R"" or NHC(O)-R"" wherein R"" is a hydrogen, linear (C_1-C_7) alkyl, branched or cyclic (C_3-C_7) alkyl, halogenated linear, branched or cyclic alkyl, aryl or alkylaryl, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aryl or alkylaryl or connected to the aryl or alkylaryl by a C_1-C_5 alkyl, or an aromatic ring containing one or more hetero atoms selected from N, S, and O, optionally substituted with one or more substituents selected from the group consisting of F, Cl, Br, I, linear alkyl, nitro, alkoxyl, hydroxyl, and an amino group directly linked to the aromatic ring or connected to the aromatic ring by a C_1-C_5 alkyl; and R_3 is F, Cl, Br, I, OH, OR"" or OC=OR"", wherein R"" is an alkyl, aryl, aromatic ring containing one or more hetero atoms, or R_3 is a covalent bond replacing the hydrogen in a hydroxyl group of R_2 when R_2 is alcohol or hydroxyl.

29. (New) The method of claim 4, wherein said compound is 4-hydroxy-1-methyl-4-(4-methylphenyl)-3-piperidyl 4-methylphenyl ketone or an analog thereof.

30. (New) The method of claim 4, wherein said compound is a (+)- or (-) enantiomer of 4- hydroxy-1-methyl-4-(4-methylphenyl)-3-piperidyl 4-methylphenyl ketone or of an analog thereof.

31. (New) The method of claim 4, wherein said compound is selected from the group consisting of 3,4-dichlorophenyl -4(3,4-dichlorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 2,4-dichlorophenyl 4- 2,4-dichlorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 3-[hydroxyl-4-methylphenyl) methyl]-1-methyl-4-(4-methylphenyl)piperidin-4-ol; 4-(3, 4-dichlorophenyl)-3-[(3,4-dichlorophenyl) hydroxymethyl)]-1-methylpiperidin-4-ol; 4-(2,4-dichlorophenyl)-3-[(2,4-dichlorophenyl) hydroxymethyl]-1-methylpiperidin-4-ol; 8-aza-1,5-bis(4-methylphenyl)-8-methyl-2,4-dioxabicyclo[4,4,0]decan-3-one; 4-chloro-3-methylacetophenone; 4-chloro-3-methyl phenacylchloride; 4-chlorophenyl 4-(4-chlorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 4-bromophenyl 4-(4bromophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 4-hydroxy-4-(4-iodophenyl)-1methyl-3-piperidyl 4-iodophenyl ketone; 4-ethylphenyl 4-(4-ethylphenyl)-4-hydroxy1-methyl-3-piperidyl ketone; 2-chlorophenyl 4-(2-chlorophenyl)-4-hydroxy-1-methyl3-piperidyl ketone; 3-chlorophenyl 4-(3-chlorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 3,4-difluorophenyl 4-(3,4-difluorophenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 3,4-dimethyl 4-(3,4-dimethylphenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 4-chloro-3-methylphenyl 4-(4-chloro-3-methylphenyl)-4-hydroxy-1-methyl-3-piperidyl ketone; 1-ethyl-4-hydroxy-4-(4-methylphenyl)-3-piperidyl 4-methylphenyl ketone; 4-chlorophenyl 4-(4-chlorophenyl)-1-ethyl-4-hydroxy-3-piperidyl ketone; 3,4-dichlorophenyl 4-(3,4-dichlorophenyl)-1-ethyl-4-hydroxy-3-piperidyl ketone; 3,4-dichlorophenyl 4-(3,4-dichlorophenyl)-4-hydroxy-1-(2-phenylethyl)-3-piperidyl ketone; 4-bromophenyl 4-(4-bromophenyl)-4-hydroxy-1-(2-phenylethyl)-3-piperidyl ketone; 3,4-dichlorophenyl 4-(3,4-dichlorophenyl)-4-hydroxy-1-(3-phenylpropyl)-3-piperidyl ketone; and 4-bromophenyl 4-(4-bromophenyl)-4-hydroxy-1-(3-phenylpropyl)-3-piperidyl ketone.

32. (New) The method of claim 4, wherein said compound is the (-)- or (+) enantiomer of the compound 3,4-dimethylphenyl 4-(3,4-dimethylphenyl)-4-hydroxy-1-methyl-3-piperidyl ketone or of an analog thereof.

33. (New) The method of claim 4, wherein said compound is the (+)- or (-) enantiomer of the compound 4-chloro-3-methylphenyl 4-(4-chloro-3-methylphenyl)-4-hydroxy-1-methyl-3-piperidyl ketone or of an analog thereof.